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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,198	09/29/1999	RANDALL M. CHUNG	97RSS467	3740

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EXAMINER

TONG, NINA C

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 10/01/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/408,198	Applicant(s) CHUNG, RANDALL M.	
	Examiner Nina Tong	Art Unit 2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 9, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 15, please change "16" to -14--.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 11-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Eastmond et al. (5,355,242).

Regarding claim 1, Eastmond shows a wireless infrared receiver showing an infrared receiver (100,101) employing an array of photo-sensors for detecting infrared signals within an solid angle (note Figure 2).

Regarding claims 2 and 3, Eastmond shows a lens assembly with an imperfect focus (note Figures 2A and 2B).

Regarding claim 4, Eastmond shows a filter circuitry (111).

Regarding claim 5, Eastmond shows an output summing circuitry (note hardwired point at 102 and 103).

Regarding claim 6, Eastmond shows a programmable gain circuitry (104,105,109).

Regarding claim 7, the feedback resistors 106 and 107 dynamically changing the gains of the amplifiers 104 and 105, respectively.

Regarding claim 8, Eastmond shows a filter 113 reads on the analog to digital converter as claimed because it reshapes an analog binary representation signal into a binary signal.

Regarding claim 11, Eastmond shows that the photo sensor array is multi-dimensional (see Figure 2A).

Regarding claim 12, Eastmond shows that the invention is intended for any kind of conventional communication mode (see col. 1, lines 27-42). Hence, using the invention in the half duplex serial mode environment is considered an intended use.

Regarding claim 13, Eastmond shows that the sensor array is intended to be used in any angle. The selection the angle is controlled by the operator.

Regarding claims 14-17, please note the corresponding reasons recited above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eastmond et al. (5,355,242).

Regarding claim 10, Eastmond does not specify that the photo sensor array is one dimensional as claimed. In any event, it is understood that the infrared sensors in Eastmond can be arranged in any manner and, as a matter of fact, conventional infrared sensor arrays are usually arranged in one dimensional, also known as linear array. To arrange the sensors into a linear array or one dimensional would have been an obvious design choice and it would have been obvious to one of ordinary skill in the art because sensors as shown in Figure 1 of Eastmond is not limited to two dimensional only.

6. Claims 18,21,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (5,557,443).

Regarding claim 18, Nakamura shows an infrared receiver showing a photo sensor array (221,222,223), and a selection circuit (2331,2332,2333), except the photo sensor array is not

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receiving infrared signals within a predetermined portion of a solid angle. In any event, Nakamura does admit that infrared sensors placed in a linear manner or a solid angle as claimed in well known in the art, as shown in Figure 18 (note sensors 504-507). Such arrangement can have a narrow range of detection angle (Nakamura, col. 2, lines 26-34). Knowing of such difference and having Nakamura as a guidance, and if detection angle range is not an issue, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to replace the wide angle detection array of Nakamura with the narrow angle detection array of the admitted prior art to perform the well known functions as claimed. The narrow angle linear array of the admitted prior art is easier to fabricate than the wide angle array of Nakamura.

Regarding claim 21, Nakamura inherently includes an optical system.

Regarding claim 22, Nakamura is intended to operate his invention in any data transmission rate.

Allowable Subject Matter

7. Claims 9,19,20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art does not teach or suggest the photo sensor selection control circuit as recited in claim 9, and the predetermined criteria as recited in claims 19 and 20.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakamura et al. Disclosed an optical communication method and optical remote controller.

Crimmins disclosed a distributed infrared communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nina Tong whose telephone number is 703-305-4831. The examiner can normally be reached on Mon-Fri. (9:30 -7:00), alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Nina Tong
Primary Examiner
Art Unit 2632

Nina Tong
September 26, 2002

